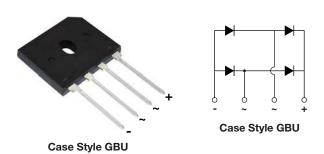


### GBU6A, GBU6B, GBU6D, GBU6G, GBU6J, GBU6K, GBU6M

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# Glass Passivated Single-Phase Bridge Rectifier



PRIMARY CHARACTERISTICS								
Package	GBU							
I <sub>F(AV)</sub>	6.0 A							
V <sub>RRM</sub>	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V							
I <sub>FSM</sub>	175 A							
I <sub>R</sub>	5 μΑ							
V <sub>F</sub> at I <sub>F</sub> = 6.0 A	1.0 V							
T <sub>J</sub> max.	150 °C							
Diode variations	In-Line							

#### **FEATURES**







High case dielectric strength of 1500 V<sub>RMS</sub>

Solder dip 275 °C max. 10 s, per JESD 22-B106

 Material categorization: for definitions of compliance please see www.vishav.com/doc?99912

# Pk



ROHS

#### **TYPICAL APPLICATIONS**

General purpose use in AC/DC bridge full wave rectification for monitor, TV, printer, switching mode power supply, adapter, audio equipment, and home appliances applications.

#### **MECHANICAL DATA**

Case: GBU

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: As marked on body

**Mounting Torque:** 10 cm-kg (8.8 inches-lbs) max. **Recommended Torque:** 5.7 cm-kg (5 inches-lbs)

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	GBU6A	GBU6B	GBU6D	GBU6G	GBU6J	GBU6K	GBU6M	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward $T_C = 90  ^{\circ}C^{(1)}$	l —/	6.0							A
rectified output current at (fig. 1) $T_A = 40  ^{\circ}\text{C}$ (2)	'F(AV)	3.8							
Peak forward surge current single sine-wave superimposed on rated load	I <sub>FSM</sub>	I <sub>FSM</sub> 175				Α			
Rating for fusing (t < 8.3 ms)	l <sup>2</sup> t	<sup>2</sup> t 127			A <sup>2</sup> s				
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150				°C			

#### **Notes**

<sup>(1)</sup> Unit case mounted on aluminum plate heatsink

<sup>(2)</sup> Units mounted on PCB with 0.5" x 0.5" (12 mm x 12 mm) copper pads and 0.375" (9.5 mm) lead length



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<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	GBU6A	GBU6B	GBU6D	GBU6G	GBU6J	GBU6K	GBU6M	UNIT
Maximum instantaneous forward voltage drop per diode	6.0 A	V <sub>F</sub>				1.0				٧
Maximum DC reverse current at rated DC	T <sub>A</sub> = 25 °C	L				5.0				
blocking voltage per diode	T <sub>A</sub> = 125 °C	IR	500						μA	
Typical junction capacitance per diode	4 V, 1 MHz	СЈ				68				pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL GBU6A GBU6B GBU6D GBU6G GBU6J GBU6K GBU6M UNIT								
Typical thermal resistance	R <sub>0JA</sub> (2)	20							°C/W
Typical trieffilal resistance	R <sub>0</sub> JC (1)(3)	2.5							C/VV

#### **Notes**

- (1) Units case mounted on aluminum plate heatsink
- (2) Units mounted in free air, no heatsink on PCB, 0.5" x 0.5" (12 mm x 12 mm) copper pads, 0.375" (9.5 mm) lead length
- (3) Recommended mounting position is to bolt down on heatsink with silicone thermal compound for maximum heat transfer with #6 screws

ORDERING INFORMATION									
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE					
GBU6J-E3/45	3.857	45	20	Tube					
GBU6J-E3/51	3.857	51	250	Paper tray					

### RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

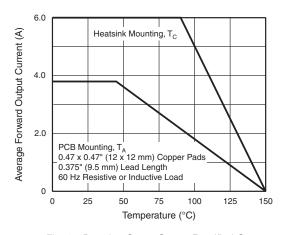


Fig. 1 - Derating Curve Output Rectified Current

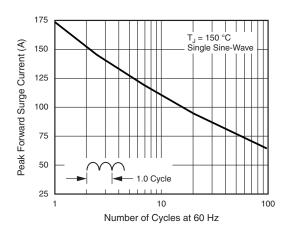


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



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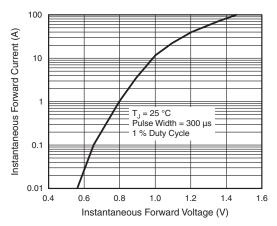


Fig. 3 - Typical Forward Characteristics Per Diode

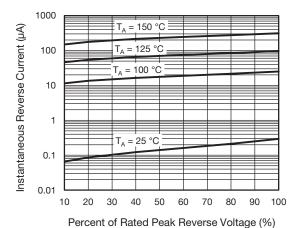


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

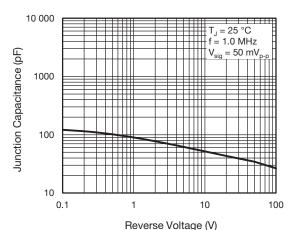


Fig. 5 - Typical Junction Capacitance Per Diode

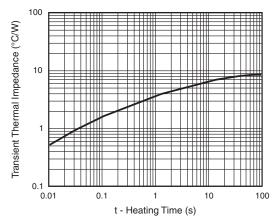
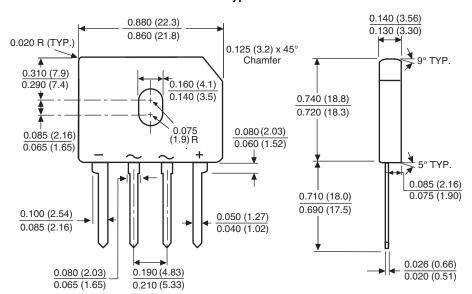


Fig. 6 - Typical Transient Thermal Impedance

### **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

#### Case Type GBU



Polarity shown on front side of case, positive lead by beveled corner



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